



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,603	02/12/2007	Hiroyuki Yaegashi	1982-0313PUS1	4858
2292	7590	03/04/2010	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				MACCHIAROLO, PETER J
ART UNIT		PAPER NUMBER		
2879				
NOTIFICATION DATE			DELIVERY MODE	
03/04/2010			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/594,603	YAEGASHI, HIROYUKI	
	Examiner	Art Unit	
	PETER J. MACCHIAROLO	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 December 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-4 and 6-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4 and 6-23 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 28 September 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/23/2009</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

The replies filed on 09/29/2009 and 12/02/2009 consists of changes to the specification and to the claims, and further, the replies consist of remarks related to the prior rejection of claims in the previous Office Action. The above have been entered and considered. However, pending claims 1-4, 6-23 are not allowable as explained below.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 11/23/2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the resultant structure of claim 23 must be shown or the feature(s) canceled from the claim(s). Specifically, the first insulating layer on which the first conductive film is formed and the second insulating layer having a first aperture part above an electrode of the switching device and is made from a photosensitive resin and then the second insulating layer being used as a mask to from the second aperture part must be shown. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 6, 12 and 14-17 are rejected under 35 U.S.C. 102(a) and 102(e) as being anticipated by Inoue et al. (USPGPUB 20030156239; “Inoue”).

Regarding claim 1, Inoue discloses at least in figure 6 an organic electroluminescence device, comprising: an anode electrode comprising a first conductive film (44) which is formed on a substrate (100) and has light reflectivity (see paragraph 42), and a second conductive film (80) which has light transmittance (see paragraph 66) and is formed (see at least paragraph 57) on the first conductive film (44) so as to be wider (see at least fig. 6) than the first conductive film (44) and so as to cover (see at least fig. 6) the first conductive film (44); an organic electroluminescence layer (88) which is formed on the anode electrode (44 and 80); and a cathode electrode (86) which is formed on the organic electroluminescence layer (88) and has light transmittance (see at least paragraph 66).

Regarding claim 2, Inoue discloses at least in figure 6 an organic electroluminescence device, comprising: an anode electrode comprising a first conductive film (not shown Mo buffer layer under 44 disclosed in at least paragraph 42) which is formed on a substrate (100) and has light reflectivity (Mo inherently reflects at least a part of light), a second conductive film (80) which has light transmittance (see paragraph 66) and is formed (see at least paragraph 57) on the first conductive film (not shown Mo buffer layer) so as to be wider (see at least fig. 6) than the first conductive film (not shown Mo buffer layer) and so as to cover (see at least fig. 6) the first conductive film (not shown Mo buffer layer), and a third conductive film (44) which is partially formed between the first conductive film (not shown Mo buffer layer) and the second conductive film (80) and is electrically connected (see at least paragraph 42 and 57) to each of the first conductive film (not shown Mo buffer layer) and the second conductive film (80); an organic electroluminescence layer (88) which is formed on the anode electrode (Mo buffer layer, 44 and

80); and a cathode electrode (86) which is formed on the organic electroluminescence layer (88) and has light transmittance (see at least paragraph 66).

An alternate rejection for claim 2 with the first conductive film matching with Inoue's layer 44 can be made as follows:

Regarding claim 2, Inoue discloses at least in figure 6 an organic electroluminescence device, comprising: an anode electrode comprising a first conductive film (44) which is formed on a substrate (100) and has light reflectivity (see paragraph 42), a second conductive film (80) which has light transmittance (see paragraph 66) and is formed (see at least paragraph 57) on the first conductive film (44) so as to be wider (see at least fig. 6) than the first conductive film (44) and so as to cover (see at least fig. 6) the first conductive film (44), and a third conductive film (42) which is partially formed between the first conductive film (44) and the second conductive film (80) and is electrically connected (see at least paragraph 42 and 57) to each of the first conductive film (44) and the second conductive film (80); an organic electroluminescence layer (88) which is formed on the anode electrode (42, 44 and 80); and a cathode electrode (86) which is formed on the organic electroluminescence layer (88) and has light transmittance (see at least paragraph 66).

Regarding claim 4, Inoue discloses at least in figure 6 the second conductive film (80) is formed so as to cover the first conductive film (44).

Regarding claim 6, Inoue discloses in at least paragraph 50 that the third conductive film (42) comprises Mo.

Regarding claim 12, Inoue discloses at least in figure 6 the first conductive film (44) is partially formed in a luminescence region (not labeled) where the anode electrode (80) and the cathode electrode (86) overlap each other.

Regarding claim 14, Inoue discloses at least in paragraph 42 the first conductive film (44) comprises Al, Ag, Nd, Si, Ti, W, Cu, Nb, Ta, C, or an alloy comprising at least any one of these as a main component.

Regarding claim 15, Inoue discloses at least in paragraph 42 the second conductive film (80) comprises ITO, IZO, or ZnO.

Regarding claim 16, Inoue discloses at least in figure 6 a display apparatus, comprising the organic electroluminescence device of claim 1 in the pixel region.

Regarding claim 17, Inoue discloses at least in figure 6 a switching device (TFT) which is formed on the substrate (100) and controls a driving voltage which is applied to the organic electroluminescence device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Inoue.

Regarding claim 3, Inoue discloses at least in paragraph 42 the first conductive film (not shown Mo buffer layer) is formed to increase adhesion of the third conductive film (44) to the insulating film (38).

Inoue is silent to the relative location of the third conductive film (44) to the first conductive film (not shown Mo buffer layer).

However, Inoue does infer at least in paragraph 42 that the third conductive film (44) is in fact formed on the entire surface of the first conductive film (not shown Mo layer) since one of ordinary skill in the art will understand this is required to increase adhesion of the third conductive film (44) to the insulating surface (38).

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Inoue's third conductive film to be formed on a peripheral edge portion of the first conductive film to increase adhesiveness between the third conductive film (44) and insulating layer (38).

Regarding claims 18-22, the structural limitations therein are the same as those recited in claims 1-6, as rejected by Inoue above.

Inoue is silent to a method of fabricating the organic EL display device.

However, one skilled in the art will recognize that manufacturing Inoue's device will comprise Applicant's recited steps of forming. Furthermore, the Examiner hereby takes Official notice that the recited etching and photoresist exposure is well-known in the art. Since only generic method steps and well-known methods are recited, the structure taught by Inoue meets Applicant's method step limitations. The examiner notes that the Official Notice subject matter on page 8 of the Office Action dated 06/29/2009 is taken to be admitted prior art since Applicant failed to seasonably traverse the assertion of Official Notice (See MPEP § 2144.03).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the OLED of Inoue with the method of claims 18-22, since the method steps are obvious in light of the resultant structure.

Claims 7-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over previously cited Murakami et al. (USPGPUB 20040113544; "Murakami'544") in view of Murakami et al. (USPGPUB 20030127651; "Murakami'651").

Regarding claim 7, Murakami'544 discloses at least in figure 2 an organic electroluminescence device, comprising: a first conductive film (110) which is formed on a substrate (116) and has light reflectivity (see at least paragraph 80); an insulating layer (119) which is made from a SiNx (see at least paragraph 73) and is formed on the first conductive film (110) and has light transmittance; an anode electrode (115) which is formed on the insulating

layer (119) and comprises a second conductive film having light transmittance (see at least paragraph 73); an organic electroluminescence layer (121-124) which is formed on the anode electrode (115); and a cathode electrode (125) which is formed on the organic electroluminescence layer (121-124) and has light transmittance (see at least paragraph 50).

Murakami'544 is silent to the insulating layer being made from a photosensitive resin.

However, the Examiner hereby takes official notice that silicon nitride and photosensitive resin are well-known equivalents in the art, as evidenced at least in figure 1 and paragraph 61 of Murakami'651, which teaches that a transparent insulating layer which makes direct contact with the electrode can be made from either silicon nitride or a photosensitive resin.

One would be motivated to use a photosensitive resin instead of silicon nitride for a variety of reasons, including enabling for faster manufacturing, or material availability.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Murakami'544's insulating layer with a photosensitive resin.

Regarding claim 8, Murakami'544 discloses at least in figure 2 the insulating layer (119) is formed so as to cover the first conductive film (110).

Regarding claim 9, Murakami'544 discloses at least in figure 2 the first conductive film (110) is formed so as to be wider than a luminescence region where the anode electrode (115) and the cathode electrode (125) overlap each other (135).

Regarding claim 10, Murakami'544 discloses in paragraph 58 that the insulating layer (119) has a film thickness of 0.5 μ m which prevents short circuits.

Although Murakami'544 is silent to the insulating layer having a film thickness of 1 μ m or more, this is considered a matter of obvious design choice, since the thickness is determined based on specific platform requirements, such as intended power usage and overall thickness.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Murakami'544 with the insulating layer having a film thickness of 0.5 μ m to meet certain platform demands.

Regarding claim 11, Murakami'544 discloses at least in paragraph 58 that the insulating layer (199) has light transmittance of 50% or higher (inherent to 500nm thick SiN).

Regarding claim 13, Murakami'544 discloses at least in figure 2 irregularities (uneven surface above 105) are formed on a surface of the insulating layer (119).

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami'651.

Regarding claim 23, Murakami'651 discloses at least in figures 1-6c a manufacturing method for a display apparatus, comprising steps of: forming a switching device (fig. 1; 202) on a substrate (101); forming a first insulating layer (108) on the substrate (101) on which the switching device (202) is formed; forming a first conductive film (114) having light reflectivity

(see at least paragraph 112) on the first insulating layer (108); forming, on the first insulating layer (108) on which the first conductive film (114) is formed, a second insulating layer (109) which has a first aperture part (through hole not labeled) above an electrode (104) of the switching device (202) and comprises a photosensitive resin (see at least paragraph 33) having light transmittance; etching the first insulating layer (108) using the second insulating layer (109) as a mask (see at least paragraphs 108-110) to form a second aperture part (through hole not labeled) which reaches the electrode (104) of the switching device (202); forming, on the second insulating layer (109), an anode electrode (111) which is electrically connected to the electrode (104) of the switching device (202) through the first aperture part (not labeled) and the second aperture part (not labeled), and comprises a second conductive film having light transmittance (see at least paragraph 64); forming an organic electroluminescence layer (120) on the anode electrode (111); and forming a cathode electrode (117) on the organic electroluminescence layer (120).

Murakami'651 discloses in at least paragraph 130 that the cathode material is not limited to being opaque, but does not explicitly disclose the cathode electrode has light transmittance.

However, the Examiner hereby takes official notice that using both anodes and cathodes with light transmittance is well-known in the art. One would arrive at this modification to allow for a double-sided display device. Alternatively, this would allow for a top-emitting light device which would satisfy specific platform requirements.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture Murakami'651's

cathode with light transmittance to allow for either a top-emitting or double sided display device, thereby satisfying specific platform requirements.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendments filed 09/29/2009 and 12/02/2009 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

/Peter Macchiarolo/
Primary Examiner, Art Unit 2879
(571) 272-2375